

**Notice of Allowability**

Application No.

10/651,031

Examiner

Satya B. Sastri

Applicant(s)

OHKOUCHI ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to August 17, 2005.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***EXAMINER'S COMMENT/REASONS FOR ALLOWANCE***

1. All previous rejections have been overcome by the amendment filed on August 17, 2005 and the rejections are withdrawn. *Claims 1-6* are now pending in the application.

***Reasons For Allowance***

2. *Claims 1-6* are allowed.

3. The following is an Examiner's Statement of Reasons for Allowance:

The instant claims are allowable over closest prior art of record to Sakamoto et al. (US 5,785,821).

The present claims are directed to a method of preventing polymerization of acrylic acid during separation of the acrylic acid from an aqueous solution containing glyoxal and/or its hydrate in an azeotropic dehydration column by withdrawing glyoxal and/or its hydrate from the bottom of the column in an amount of 50% or more with respect to 100% of the total glyoxal and/or its hydrate contained in the aqueous solution.

Sakamoto et al. disclose purification of acrylic acid from acrylic acid solution obtained after catalytic gas phase oxidation of propylene and/or acrolein. The aqueous acrylic acid is subjected to azeotropic distillation in the presence of poor water-soluble solvent. The aqueous acrylic acid solution disclosed generally contains 50-80% by weight of acrylic acid, 1-5% by weight of acetic acid and 20-40% by weight of water under the ordinary conditions of acrylic

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acid synthesis. The solution drawn out of the bottom of the azeotropic distillation column contains predominantly acrylic acid with trace amounts of acetic acid and other substances.

The prior art of record does not teach or suggest a method of preventing polymerization of acrylic acid during purification in an azeotropic dehydration unit by removing 50% or more of glyoxal and/or its hydrate from the bottom of the column as claimed instantly. Therefore, the instantly claimed invention is deemed allowable over closest prior art of record as per said art neither anticipating nor rendering, alone or in combination, the instantly claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance.

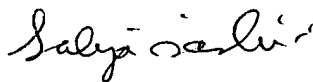
#### ***Future Correspondence***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri whose telephone number is 571-272-1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications. The unofficial direct fax phone number to the Examiner's desk is 571-273-1112.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

September 12, 2005



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700